

JOURNAL OF SOUND AND VIBRATION

EDITOR

P. E. Doak

EDITORIAL BOARD

W. A. Allen

H. O. Berkta

R. E. D. Bishop

B. L. Clarkson

R. Cohen

D. G. Crighton

I. Dyer

C. L. Dym

A. Freedman

G. M. L. Gladwell

M. Heckl

D. J. Johns

A. W. Leissa

D. J. Mead

H. G. Morgan

R. A. Piesse

E. J. Richards

D. W. Robinson

J. D. Robson

A. Tondl

G. B. Warburton

VOLUME 90

September to October 1983

ACADEMIC PRESS

LONDON NEW YORK SAN DIEGO
SAN FRANCISCO SÃO PAULO
SYDNEY TOKYO TORONTO

ISSN 0022-460X



CONTENTS OF VOLUME 90

NUMBER 1, 8 SEPTEMBER 1983

MEAD, D. J. and MARKUŠ, Š., Coupled flexural-longitudinal wave motion in a periodic beam	1
CRAMER, M. S., Three-dimensional effects on the focusing of weak shock waves .	25
PERRIN, R., CHARNLEY, T. and DEPONT, J., Normal modes of the modern English church bell	29
PAPASTAVRIDIS, J. G., On the static and kinetic methods of conservative system stability, and Rayleigh's principle: A reexamination	51
RICHARDS, E. J., LENZI, A. and CUSCHIERI, J., On the prediction of impact noise, Part VI: Distribution of acceleration noise with frequency with application to bottle impacts	59
IRIE, T., YAMADA, G. and KITAYAMA, M., Vibration and stability of a circular plate of unidirectionally varying thickness	81
BUCHER, J., TRETHEWEY, W. and EVENSEN, H. A., A selective two microphone acoustic intensity method	93
ROBINSON, D. W., The spectral factor in noise-induced hearing loss: A case for retaining the A-weighting	103
SHAW, S. W. and HOLMES, P. J., A periodically forced piecewise linear oscillator .	129

NUMBER 2, 22 SEPTEMBER 1983

GNIELKA, P., Modal balancing of flexible rotors without test runs: An experimental investigation	157
VALLET, M., GAGNEUX, J.-M., BLANCHET, V., FAVRE, B. and LABIALE, G., Long term sleep disturbance due to traffic noise	173
CUMMINGS, A., Higher order mode acoustic transmission through the walls of rectangular ducts	193
CUMMINGS, A., Approximate asymptotic solutions for acoustic transmissions through the walls of rectangular ducts	211
CEPKAUSKAS, M. M. and STEVENS, J. A., Fluid-structure interaction via boundary operator method	229
NAYFEH, A. H., The response of multidegree-of-freedom systems with quadratic non-linearities to a harmonic parametric resonance	237
BANERJEE, J. R. and WILLIAMS, F. W., Vibration characteristics of self-expanding stayed columns for use in space	245
SHIRAKAWA, K., Dynamic response of a pre-stressed cylindrical shell to a moving load	263
BENDAT, J. S., Statistical errors for non-linear system measurements involving square-law operations	275

Letters to the Editor

HANSON, R. J., Comments on "The quality of strings for guitars: an experimental study"	283
MEYER, W. L. and ZINN, B. T., Sound radiation from finite length axisymmetric ducts	286
RAJU, I. S. and AMBA-RAO, C. L., Free vibrations of a square plate symmetrically supported at four points on the diagonals	291

NUMBER 3, 8 OCTOBER 1983

ORMAN, D. G. and HUISOON, J. P., Vibratory control of thermally stressed discs by means of intermediate heating	299
OWLING, A. P., Sound generation by turbulence near an elastic wall	309
OMAR, J. S. and GUPTA, A. K., Thermal effect on frequencies of an orthotropic rectangular plate of linearly varying thickness	325
AVIES, H. G., The response and distribution of maxima of a non-linear oscillator with band limited excitation	333
NIANSSON, G. and PETERSON, Y., Speech intelligibility of normal listeners and persons with impaired hearing in traffic noise	341
ABIALE, G., Laboratory study of the influence of noise level and vehicle number on annoyance	361
AN BAKEL, J. G. and DE VRIES, D., Parameter sensitivity of a T-junction SEA model: The importance of the internal damping loss factors	373
EBELLO, C. A., BERT, C. W. and GORDANINEJAD, F., Vibration of bimodular sandwich beams with thick facings: A new theory and experimental results	381
OTHERSALL, D. C. and SIMPSON, S., The reflection of road traffic noise	399
WU, L. and GRIEF, R., Substructuring and modal synthesis for damped systems	407
DONATI, P. M. and BONTHOUX, C., Biodynamic response of the human body in the sitting position when subjected to vertical vibration	423

Letters to the Editor

PRATHAP, G., The two frequency spectra of Timoshenko beams—A re-assessment	443
LEVINSON, M., Author's reply	445
WALKER, R., Comments on "Dependence of the curvature of sound decay curves and absorption distribution on room shapes"	447
HIRATA, Y., Author's reply	448
PEKAŁA, W. and SZOPA, J., Response of shock isolators with linear and quadratic damping under random excitation	449

EDWARDS, K. A., TOBIN, R. C. and KOSS, L. L., Selective excitation of modes of vibration by means of a laser	452
--	-----

NUMBER 4, 22 OCTOBER 1983

NAYFEH, A. H., Combination resonances in the non-linear response of bowed structures to a harmonic excitation	457
JACQUOT, R. G., The application of sinusoidally derived beam receptances to calculation of transient responses for damped composite systems	471
PRASAD, M. G. and CROCKER, M. J., Acoustical source characterization studies on a multi-cylinder engine exhaust system	479
PRASAD, M. G. and CROCKER, M. J., Studies of acoustical performance of a multi-cylinder engine exhaust muffler system	491
WALKINGTON, N. J. and EVERSMAN, W., A numerical model of acoustic choking, Part I: Shock free solutions	509
CURNIER, A., On three modal synthesis variants	527
TAKAHASHI, D., Sound radiation from periodically connected double-plate structures	541
LJUNGGREN, S., Generation of waves in an elastic plate by a vertical force and by a moment in the vertical plane	559

Letters to the Editor

DYRLUND, O., A note on statistical errors in acoustic intensity measurements	585
TREVIÑO, G., On the bispectrum concept for random processes	590
ANNOUNCEMENTS	595
BOOK REVIEW	605
HUMAN RESPONSE TO VIBRATION	609
INDEX TO VOLUME 90	613

Copyright © 1983, by Academic Press Inc. (London) Ltd.

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain